

Listing of the Claims

The following listing of claims replace all prior versions and all prior listing of claim sin the present application.

1. (Currently Amended) A method of minimizing the variations in optical pathlengths in a testing apparatus comprising the steps of

providing a source of illuminating radiation for illuminating a sample, said illuminating source being in the form of one or more radiation sources;

arranging said illumination source adjacent to a reflective enclosure that at least partially encloses said sample in a radial direction with no more than a single opening in the radial direction, any opening in said reflective enclosure being substantially equal or smaller in size than the width of said sample, and at least one of said radiation sources being located within said reflective enclosure;

illuminating said sample with radiation from said illumination source; and

detecting radiation emerging from said sample with a detector.

2. (Original) The method of claim 1 wherein said source of illuminating radiation comprises a plurality of radiation sources.

3. (Cancelled)

4. (Previously Amended) The method of claim 3 2 where at least two of said radiation sources are located within said reflective enclosure and said radiation sources are located radially relative to said sample

5. (Previously Amended) The method of claim 3 2 where at least two of said radiation sources are located within said reflective enclosure and said radiation source are located axially relative to said sample.

6. (Original) The method of claim 2 wherein said radiation sources comprise miniature incandescent lamps.

7. (Original) The method of claim 2 wherein said detector comprises a plurality of detector units.

8. (Original) The method of claim 1 wherein said reflective enclosure comprises a cylinder open at both axial ends.

9. (Original) The method of claim 8 wherein said cylinder encloses said sample.

10. (Original) The method of claim 9 wherein said sample is a fluid.

11. The method of claim 10 wherein said fluid flows through said cylinder during time of illumination and detection of radiation.

12. (Original) The method of claim 1 wherein said sample contains a bodily fluid.

13. (Original) The method of claim 12 wherein said testing apparatus is adapted for in vivo non-invasive testing of a material carried in said bodily fluid.

14. (Original) The method of claim 13 wherein said sample is a finger that is illuminated and from which said radiation is detected.

15. (Currently Amended) The method of claim 14 13 wherein said reflective enclosure only partially encloses said finger sample in a radial direction, with an opening approximately equal in size to the width of said finger sample.

16. (Currently Amended) The method of claim 14 13 wherein said reflective enclosure totally encloses said finger sample in a radial direction, and wherein said enclosure comprises said illumination source and said detector within said enclosure.

17. (Original) The method of claim 14 wherein said portion of said finger that is illuminated and from which said radiation is detected is a knuckle.

18. (Currently Amended) A testing apparatus for simulating sample homogeneity comprising:

a source of illuminating radiation for illuminating a sample, said illumination source being arranged adjacent to a reflective enclosure that at last partially encloses said sample in a radial direction with no more than a single opening in a radial direction, any opening in said reflective enclosure being substantially equal or smaller in size than the width of said sample, and said source of illuminating radiation being in the form of one or more radiation sources, at least one of said radiation sources being located within said reflective enclosure; and

a detector for detecting radiation emerging from said sample

19. (Original) The apparatus of claim 18 wherein said source of illuminating radiation comprises a plurality of radiation sources.

20. (Cancelled)

21. (Previously Amended) The apparatus of claim 19 where at least two of said radiation sources are located within said reflective enclosure and said radiation sources are located radially relative to said sample.

22. (Previously Amended) The apparatus of claim 19 where at least two of said radiation sources are located within said reflective enclosure and said radiation sources are located axially relative to said sample.

23. (Original) The apparatus of claim 19 wherein said radiation sources comprise miniature incandescent lamps.

24. (Original) The apparatus of claim 18 wherein said detector comprises a plurality of detector units.

25. (Original) The apparatus of claim 18 wherein said reflective enclosure comprises a cylinder open at both axial ends.

26. (Original) The apparatus of claim 25 wherein said cylinder encloses said sample.

27. (Original) The apparatus of claim 19 wherein said sample is contained in a fluid.

28. (Original) The apparatus of claim 27 wherein said testing apparatus is adapted for in vivo non-invasive testing of a material carried in bodily fluid.

29. (Original) The apparatus of claim 28 wherein said reflective enclosure is designed to at least partially enclose a finger.

30. (Currently Amended) The apparatus of claim 29 28 wherein said reflective enclosure only partially encloses said finger sample in a radial direction, with an opening approximately equal in size to the width of said finger sample.

31. (Currently Amended) The apparatus of claim 29 28 wherein said reflective enclosure totally encloses said finger sample in a radial direction, and wherein said enclosure comprises said illumination source and said detector within said enclosure.

32. (Original) The apparatus of claim 29 wherein said portion of said finger that is illuminated and from which said radiation is detected is a knuckle.